

What is claimed is:

1. A cable comprising a conductive core and a semiconducting layer surrounding the conductive core, said semiconducting layer comprising:
 - a) about 55 percent to about 75 by weight of a base polymer; and
 - b) about 25 percent to about 45 percent by weight of carbon black having particle size of from about 15 nm to about 22 nm, an Iodine number of from about 115 mg/g to about 200 mg/g, and a DBP number of from about 90 cm³/100 g to about 170 cm³/100 g.
2. The cable of claim 1, wherein the particle size is from about 18 nm to about 21 nm.
3. The cable of claim 1, wherein the Iodine number is from about 120 mg/g to about 150 mg/g.
4. The cable of claim 1, wherein the tint strength is at least about 95%.
5. The cable of claim 1, wherein the particle size is about 20 nm and the Iodine number is from about 125 mg/g to about 150 mg/g.
6. The cable of claim 1, wherein the carbon black is present in an amount of from about 30 percent to about 40 percent by weight.
7. The cable of claim 1, wherein the base polymer is present in an amount of from about 60 percent to about 70 percent by weight.

8. The cable of claim 1, wherein the base polymer is selected from copolymers of ethylene and a mono-unsaturated ester, copolymers of ethylene and one or more α -olefins having three to six carbon atoms, EPR and EDPM rubbers, low density polyethylene, and linear low density polyethylene.

9. The cable of claim 1, wherein the base polymer is ethylene vinyl acetate.

10. The cable of claim 9, wherein the ethylene vinyl acetate has a vinyl acetate content of from about 18 percent to about 20 percent.

11. The cable of claim 1, wherein the base polymer is ethylene/1 -butene and has a density of from about 0.85 g/cm³ to about 0.95 g/cm³.

12. A semiconducting composition comprising :

- about 55 percent to about 75 by weight of a base polymer; and
- about 25 percent to about 45 percent by weight of carbon black having a particle size from about 15 nm to about 22 nm, an Iodine number of from about 115 mg/g to about 200 mg/g, and a DBP number from about 90 cm³/100 g to about 170 cm³/100 g.

13. The semiconducting composition of claim 12, wherein the Iodine number is from about 125 mg/g to about 150 mg/g.

14. The semiconducting composition of claim 12, wherein the tint strength is at least about 95%.

15. A semiconductive shield made from the composition of claim 12 and having an accelerated cable life testing (ACLT) Weibull Beta value of 1.5 or more.
16. A semiconductive shield made from the composition of claim 12 and having an accelerated cable life testing (ACLT) Weibull Beta value of 3.0 or more.
17. A method of making a semiconducting composition comprising blending about 55 percent to about 75 percent by weight of a base polymer with about 25 percent to about 45 percent by weight of a carbon black having particle size from about 15 nm to about 22 nm, an Iodine number from about 115 mg/g to about 200 mg/g, and DBP number from about 90 cm³/100 g to about 170 cm³/100 g.
18. The method of claim 17, wherein the particle size is from about 18 nm to about 21 nm.
19. The method of claim 17, wherein the tint strength is at least about 95%.
20. The method of claim 17, wherein the the Iodine number is from about 120 mg/g to about 150 mg/g.